

## Stipa comata - Bouteloua gracilis - Carex filifolia Herbaceous Vegetation

COMMON NAME	Needle-and-Thread - Blue Grama - Threadleaf Sedge Herbaceous Vegetation
SYNONYM	Needle-And-Thread - Blue Grama Mixedgrass Prairie
PHYSIOGNOMIC CLASS	Herbaceous vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland (V.A.5)
PHYSIOGNOMIC SUBGROUP	Natural/semi-natural (V.A.5.N)
FORMATION	Medium-tall sod temperate or subpolar grassland (includes sod or mixed sod-bunch graminoids) (V.A.5.N.c.)
ALLIANCE	<i>Stipa comata</i> - <i>Bouteloua gracilis</i> Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM Upland

### RANGE

#### Globally

This community is common in Montana, Wyoming, and is in Nebraska, North Dakota, South Dakota, southern Saskatchewan, and southern Manitoba.

#### Agate Fossil Beds National Monument

This community is found away from the floodplain throughout the Monument.

### ENVIRONMENTAL DESCRIPTION

#### Globally

This community is found on flat to gently sloping sites, predominantly with sandy loam or loam soil. The soil is typically 40-100 cm deep (Hanson and Whitman 1938, Hansen *et al.* 1984).

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This community occurs primarily on upper slopes and flat summits of hills, but in some areas also on lower slopes and in valley bottoms. Soils are fine sands and fine loamy sands and are often shallow and rocky.

### MOST ABUNDANT SPECIES

#### Globally

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Stipa comata</i> , <i>Bouteloua gracilis</i> , <i>Carex filifolia</i>

#### Agate Fossil Beds National Monument

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Bouteloua gracilis</i> , <i>Calamovilfa longifolia</i> , <i>Carex filifolia</i> , <i>Gutierrezia sarothrae</i> , <i>Stipa comata</i>

### DIAGNOSTIC SPECIES

#### Globally

Herbaceous	<i>Stipa comata</i> , <i>Bouteloua gracilis</i> , <i>Carex filifolia</i>
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*Agate Fossil Beds National Monument*

*Astragalus missouriensis*, *Carex filifolia*, *Heterotheca villosa* var. *villosa*, *Phlox andicola*, *Stipa comata*

VEGETATION DESCRIPTION

*Globally*

This midgrass prairie community is dominated by graminoids that are usually between 0.5 and 1 m tall. The vegetation cover is moderate. The dominant species are *Bouteloua gracilis*, *Carex filifolia*, and *Stipa comata*. *S. comata* usually has the most coverage of any single species. *Carex duriuscula* is not always present but is abundant at some sites. Forbs that are typical of this community are *Heterotheca villosa* var. *villosa*, *Guara coccinea*, *Liatris punctata*, and *Phlox hoodii*. Sandier areas often have *Calamovilfa longifolia* present. Shrubs rarely grow taller than the grasses, but *Artemisia frigida* is very common in this community. Other grasses that are likely to be present are *Aristida purpurea* var. *longiseta*, *Koeleria macrantha*, and *Sporobolus cryptandrus*. On 19 stands in west-central Montana the cover by the different strata was as follows: shrubs - 6%, graminoids - 67%, forbs - 11%, bryophytes - 14%, litter - 55%, rock 4%, bare soil - 9% (Mueggler and Stewart 1978). Thilenius *et al.* (1995) found that the average cover on 14 stands in eastern Wyoming was 42%. Tolstead (1942) described this community as the climax on the level lands of the northern part of Cherry County, Nebraska.

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This is a midgrass prairie community dominated by graminoids < 1 m tall. *Carex filifolia* dominates, with *Stipa comata* often common. *Calamovilfa longifolia* and *Schizachyrium scoparium* are locally common on steeper slopes. Frequently this community occurs on detrital upper slopes of hills where a sparse short shrub layer of *Rhus trilobata* and *Yucca glauca* are often present. Common forbs include *Astragalus* spp., *Heterotheca villosa* var. *villosa*, *Psoraleidium lanceolatum*, *P. tenuiflorum*, and *Senecio riddellii*. The subshrubs *Artemisia frigida* and *Gutierrezia sarothrae* may be common in disturbed and heavily-grazed sites.

OTHER NOTEWORTHY SPECIES Information not available.

CONSERVATION RANK G3G4

RANK JUSTIFICATION

DATABASE CODE Cegl002037

COMMENTS

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In heavily grazed sites, *Bouteloua gracilis* may displace *Carex filifolia* and *Stipa comata*. *Gutierrezia sarothrae* is an indicator of overgrazing in this community.

REFERENCES

- Hansen, P. L., G. R. Hoffman, and A. J. Bjugstad. 1984. The vegetation of Theodore Roosevelt National Park, North Dakota: A habitat type classification. General Technical Report RM-113. USDA Forest Service, Rocky Mountains Forest and Range Experiment Station, Fort Collins, CO. 35 p.
- Hanson, H. C. and W. Whitman. 1938. Characteristics of major grassland types in western North Dakota. Ecological Monographs 8(1):58-114.
- Mueggler, W. F. and W. L. Stewart. 1978. Grassland and shrubland habitat types of western Montana. USDA Forest Service General Technical Report INT-66. Intermountain Forest and Range Experiment Station, Ogden, UT. 154 pp.
- Thilenius, J. F., G. R. Brown, and A. L. Medina. 1995. Vegetation on semi-arid rangelands, Cheyenne River basin, Wyoming. General Technical Report RM-263. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 60 p.
- Tolstead, W. L. 1942. Vegetation of the northern part of Cherry County, Nebraska. Ecological Monographs 12(3):256-292.